Amendments to the Claims:

1-34. (Canceled)

35. (New) A computer implemented method for displaying volatility between a successive sequence of data samples in a set of data samples, the method comprising:

selecting, from data input into a computer pertaining to members of the group consisting of: stocks, stock options, bonds, currency exchange rates, microeconomic values, macroeconomic values, stock exchanges, personal stock portfolios, turnover, return on net asset, inflation rate, unemployment, sports, science, opinion polls, sports team performance, technology, physical experiments, and sociology, a successive sub-sequence s(p) of data samples for analysis in a set S of data samples s(p): = (pt0, . . . , pt1);

calculating, using a computer, a standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(p) of data samples to derive an unscaled volatility thereof;

scaling, using a computer, with a scale factor f the standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(p) of data samples to derive a scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$, the scale factor f being dependent on a length of the sub-sequence s(p);

calculating, using a computer, a net change in value $R_{t,t+1}(p)$ between each set of successive data samples within the sub-sequence s(p) of data samples;

mapping, using a computer, to a Cartesian coordinate system with a first axis representing the net change in value between each set of successive data samples within the sub-sequence s(p) of data samples $R_{t,t+1}(p)$ and a second axis representing the scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$;

calculating, using a computer, a probability distribution of the net change;

determining, using a computer, a probability threshold value; and

determining, using a computer, a region within the Cartesian coordinate system associated with the probability distribution and the probability threshold value; and

outputting, using a computer, to a display on the Cartesian coordinate system the net change in value between each set of successive data samples within the sub-sequence s(p) of data samples $R_{t,t+1}(p)$ in relation to the scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ to indicates to a user the scaled volatility between each set of successive data samples within the sub-sequence s(p) of data samples.

36. (New) The computer implemented method of claim 35, wherein the factor f is related to the square root of the length of the sequence is given by $f=\sqrt{(t_1-t_0)}$.

37. (New) The computer implemented method of claim 35, wherein said data input includes a dimension selected from the group consisting of: time, length, energy, and speed.

38. (New) The computer implemented method of claim 35, wherein the probability distribution is a gaussian distribution.

39. (New) The computer implemented method of claim 35, wherein the probability threshold value is equal to one of the standard deviation and the standard deviation times an integer value.

40. (New) The computer implemented method of claim 35, wherein the region has the form of one of a cone and the projection of a cone.

41. (New) The computer implemented method of claim 35, wherein each of the data samples are correlated to a price value and the difference is correlated to a return.

42. (New) The computer implemented method of claim 35, wherein data pertaining to price is selected, and each data sample is an intraday price fixing.

43. (New) The computer implemented method of claim 35, further comprising displaying a boundary of the region within the Cartesian coordinate system.

44. (New) The computer implemented method of claim 35, further comprising displaying a number of K frames FRj, each of the frames FRj visualizing one of a corresponding set of points p0 to pi and a sub-set of the set of points.

45. (New) The computer implemented method of claim 35, further comprising decreasing the brightness and/or contrast of a set of points displayed on the first axis and the second axis, wherein the set of points indicate the net change in value between each set of successive data samples.

46. (New) The computer implemented method of claim 35, wherein the first sub-sequence selected covers an intraday period.

47. (New) The computer implemented method of claim 35, further comprising:

defining a hierarchical tree structure, the tree structure providing an index structure for accessing a database;

providing a plurality of sequences each composed of data samples, and

storing said plurality of sequences of data samples, the data samples being ordered in a time series, and each of the sequences being associated with a leaf of the hierarchical tree structure.

48. (New) The computer implemented method of claim 47, wherein the database contains a plurality of files, each file storing a predefined set of sequences, with the set of sequences stored

in each file being associated with a specific distinct entity and being accessible by an identifier of the specific distinct entity.

49. (New) The computer implemented method of claim 48, wherein the specific distinct entity is a predetermined group of stock values, a stock portfolio or a stock or other financial index.

50. (New) The computer implemented method of claim 47, further comprising:

storing a number of user defined portfolios which are retrievable by a key;

retrieving sequences of data samples corresponding to a user defined portfolio upon a user request by querying the database;

providing the user with the sequences of data samples;

updating the sequences of data samples at regular time intervals; and

discontinuing the updating process when a user has failed to perform an action during a predefined time interval.

51. (New) The computer implemented method of claim 35, wherein the mapping step is further adapted to determine a region within the Cartesian coordinate system in which a point is situated with a probability being equal to a predetermined probability value, the determination of the sub-space being made responsive to the predetermined probability value and a probability distribution.

52. (New) The computer implemented method of claim 35, wherein the mapping further includes mapping to the Cartesian coordinate system with the first axis representing the net change in value between each set of successive data samples within the sub-sequence $s(p)$ of data

samples $R_{t,t+1}(p)$ and the second axis representing the scaled volatility of the sub-sequence s(*p)* of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ using a logarithmic grid.

53. (New) The computer implemented method of claim 35, wherein the regions are displayed in the Cartesian coordinate system as a line.

54. (New) A computer program product for displaying volatility between a successive sequence of data samples in a set of data samples, the computer program product comprising instructions for:

selecting, from data input into a computer pertaining to members of the group consisting of: stocks, stock options, bonds, currency exchange rates, microeconomic values, macroeconomic values, stock exchanges, personal stock portfolios, turnover, return on net asset, inflation rate, unemployment, sports, science, opinion polls, sports team performance, technology, physical experiments, and sociology, a successive sub-sequence s(p) of data samples for analysis in a set S of data samples s(p): = (pt0, . . . , pt1);

calculating, using a computer, a standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(p) of data samples to derive an unscaled volatility thereof;

scaling, using a computer, with a scale factor f the standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(p) of data samples to derive a scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$, the scale factor f being dependent on a length of the sub-sequence s(p);

calculating, using a computer, a net change in value $R_{t,t+1}(p)$ between each set of successive data samples within the sub-sequence s(p) of data samples;

mapping, using a computer, to a Cartesian coordinate system with a first axis representing the net change in value between each set of successive data samples within the sub-sequence s(p)

of data samples $R_{t,t+1}(p)$ and a second axis representing the scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$;

calculating, using a computer, a probability distribution of the net change;

determining, using a computer, a probability threshold value; and

determining, using a computer, a region within the Cartesian coordinate system associated with the probability distribution and the probability threshold value; and

outputting, using a computer, to a display on the Cartesian coordinate system the net change in value between each set of successive data samples within the sub-sequence s(p) of data samples $R_{t,t+1}(p)$ in relation to the scaled volatility of the sub-sequence s(p) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ to indicates to a user the scaled volatility between each set of successive data samples within the sub-sequence s(p) of data samples.